Amendments to the Claims:

1-66 (canceled)

67. An isolated nucleic acid molecule comprising a nucleic acid encoding a polypeptide having at least 80% sequence identity with amino acid residues 27 to 374 of the native sequence murine GFRα3 polypeptide of Figures 1A-B (SEQ ID NO: 5), and having the ability to regulate peripheral neuronal function.

68. The isolated nucleic acid molecule of claim 67 comprising a nucleic acid encoding a polypeptide having at least 85% sequence identity with amino acid residues 27 to 374 of the native sequence murine GFRα3 polypeptide of Figures 1A-B (SEQ ID NO: 5).

69. The isolated nucleic acid molecule of claim 68 comprising a nucleic acid encoding a polypeptide having at least 90% sequence identity with amino acid residues 27 to 374 of the native sequence murine GFRα3 polypeptide of Figures 1A-B (SEQ ID NO: 5).

70. The isolated nucleic acid molecule of claim 69 comprising a nucleic acid encoding a polypeptide having at least 95% sequence identity with amino acid residues 27 to 374 of the native sequence murine GFRα3 polypeptide of Figures 1A-B (SEQ ID NO: 5).

71. An isolated nucleic acid molecule comprising a nucleic acid encoding amino acid residues 27 to 374 of the native sequence murine GFRα3 polypeptide of Figures 1A-B (SEQ ID NO: 5).

72. An isolated nucleic acid molecule encoding the native sequence murine GFRα3 polypeptide of Figures 1A-B (SEQ ID NO: 5).

73. A vector comprising the nucleic acid of claim 67.

74. A vector comprising the nucleic acid of claim 71.

75. A vector comprising the nucleic acid of claim 72.

76. An isolated host cell comprising the vector of claim 73.

77. An isolated host cell comprising the vector of claim 74.

78. An isolated host cell comprising the vector of claim 75.